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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,735	09/24/2001	Tooru Ooiwa	P 281531 57617-US-KK	4235

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EXAMINER

LE, DANG D

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 11/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/960,735

Applicant(s)

OOIWA, TOORU

Examiner

Dang D Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(f).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10,12-15 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,12-15 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 4-10, 12-15 and 21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-10, 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuzer et al. in view of Umeda et al.

Regarding claim 1, Kreuzer et al. show a rotary electric machine (Figures 1-3) comprising:

- A stator (Figure 2) having a stator core with a plurality of slots and a stator winding, wherein:
- The slots include a plurality of regular slots (4-36) located side by side and a plurality of irregular slots (1-3) located side by side, and
- The stator winding has a plurality of continuous wires (40-42) wound at least one time around the stator core, the continuous wire having a plurality of in-slot portions (43, 46, and 76) accommodated in the slots and coil ends (U, Z, V, X, W, Y), the in-slot portions and the coil ends being arranged to provide

a discontinuity (U, Z, V and X, W, Y) of the stator winding at a region where the irregular slots (1-3) are located.

Kreuzer et al. do not show a rotor.

For the purpose of making an alternator, Umeda et al. show a rotor (3).

Since Kreuzer et al. and Umeda et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a rotor as taught by Umeda et al. for the purpose discussed above.

Regarding claim 2, it is noted that Kreuzer et al. also show the stator winding having plurality of conductors for providing the in-slot portions, the conductors being wound one over another.

Regarding claim 4, it is noted that Kreuzer et al. show all of the limitations of the claimed invention except for the stator winding having output leads extending beyond the coil ends, the output leads being located on a region where the regular slots are located. Kreuzer et al. show only the output leads (U, V and W) being located on a region where the irregular (1-3) slots are located.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the output leads on a region where the regular slots are located, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claim 5, it is noted that Kreuzer et al. also show the stator winding having output leads (U, Z, V and X, W, Y) extending beyond the coil ends, the output leads being located on a region where the irregular slots are located.

Regarding claim 6, it is noted that Kreuzer et al. also show the in-slot portions having a plurality of regular in-slot portions being connected (by 46) with other in-slot portions accommodated in two other slots, respectively, and a plurality of irregular in-slot portions being connected with other in-slot portions accommodated in another slot (Z with X and Y), the regular in-slot portions being accommodated in the regular and irregular slots, the irregular in-slot portions being accommodated in the irregular slots only.

Regarding claim 7, it is noted that Kreuzer et al. also show the stator winding being a wave winding.

Regarding claim 8, it is noted that Kreuzer et al. show all of the limitations of the claimed invention including the in-slot portions having a plurality of regular in-slot portions being connected (by 46) with other in-slot portions accommodated in two other slots, respectively, and a plurality of irregular in-slot portions (1-3) being connected with other in-slot portions accommodated in another slot (Z with X and Y) except for the regular in-slot portions being accommodated in the regular slots only, the irregular in-slot portions being accommodated in the irregular slots and the regular slots.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to accommodate the regular in-slot portions in the regular slots only and the irregular in-slot portions in the irregular slots and the regular slots, since it has

been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Regarding claim 9, it is noted that Kreuzer et al. also show the stator winding being a lap winding.

Regarding claim 10, it is noted that Kreuzer et al. also show the in-slot portions being divided into an inner layer and an outer layer, each of the regular in-slot portions disposed in one of the layer is connected with the other two in-slot portions disposed in the other layer in the other two slots, and each of the irregular in-slot portions disposed in one of the layer is connected with the other in-slot portions disposed in the other layer in one of the slots (Figure 2).

Regarding claim 12, it is noted that Kreuzer et al. also show the stator winding having a plurality of conductors for providing the in-slot portions, the stator winding having no conductor that crosses over a region where the irregular slots are located.

Regarding claim 21, the claim is similar to claim 1 except that it further recites a frame for supporting the rotor and the stator. It is noted that Umeda et al. also show the frame (4, Figure 1).

4. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuzer et al. in view of Umeda et al. as applied to claim 1 above, and further in view of Enomoto et al.

Regarding claim 13, the machine of Kreuzer et al. modified by Umeda et al. includes all of the limitations of the claimed invention except for the stator having a plurality of stator windings, the stator windings being radially stacked in the slot.

Enomoto et al. show the stator having a plurality of stator windings, the stator windings being radially stacked in the slot (Figure 1b) for the purpose of increasing the winding occupation rate.

Since Kreuzer et al., Umeda et al. and Enomoto et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to stack the stator windings radially in the slot as taught by Enomoto et al. for the purpose discussed above.

Regarding claim 14, it is noted that Enomoto et al. also show the stator having a plurality of stator windings, one of the stator windings being arranged to surround another stator winding (Figure 7a).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuzer et al. in view of Umeda et al. as applied to claim 1 above, and further in view of Rich.

Regarding claim 15, the machine of Kreuzer et al. modified by Umeda et al. includes all of the limitations of the claimed invention except for the stator core having at least one slit along an axial direction.

Rich shows the stator core having at least one slit (Figure 6) along an axial direction for the purpose of minimizing waste of the material.

Since Kreuzer et al., Umeda et al. and Rich are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the stator core with at least one slit along an axial direction as taught by Rich for the purpose discussed above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information on How to Contact USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone

Art Unit: 2834

numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
November 10, 2002

DL

Sang L. C.